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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,319	10/22/2003	Philip D. Nguyen	2003-IP-010380U1	5926

7590 11/17/2006  
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EXAMINER
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TSOY, ELENA

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/691,319

Applicant(s)

NGUYEN ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-64 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**Election/Restrictions**

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-17, drawn to a method of making a reduced-density, coated particulate, classified in class 427, subclass 212.
  - II. Claims 16-27, and 30-34, drawn to a method of treating a subterranean formation, classified in class 166, subclass 293.
  - III. Claims 35-49, drawn to a method of fracturing a subterranean formation, classified in class 166, subclass 293.
  - IV. Claims 50-64, drawn to a method of installing a gravel pack, classified in class 507, subclass 200.

***Distinctness***

The inventions are distinct, each from the other because:

2. Inventions I and II/III/IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the process for using the product as claimed can be practiced with another materially different product such as a *high*-density proppant.
3. Inventions II, III and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions they are not disclosed as capable of use together and they have different designs,

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modes of operation, and effects because the inventions II-IV are related to different processes of use.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Groups II, III and IV, restriction for examination purposes as indicated is proper.

5. Claim 2 of Group I is generic to a plurality of disclosed patentably distinct species of:

(A) a resin composition: (i) a resin component comprising a hardenable resin component comprising a hardenable resin and a hardening agent component comprising a liquid hardening agent, a silane coupling agent, and a surfactant (Claim 3); (ii) a resin composition comprising a furan-based resin comprising furfuryl alcohol, a mixture furfuryl alcohol with an aldehyde, a mixture of furan resin and phenolic resin or mixtures thereof (Claims 4-5); (iii) a resin composition comprising a phenolic-based resin comprising terpolymer of phenol, phenolic formaldehyde resin, a mixture of phenolic and furan resin, or mixtures thereof (Claims 6-7); (iv) a resin composition comprising a HT epoxy-based resin comprising bisphenol A-epichlorohydrin resin, polyepoxide resin, novolac resin, polyester resin, glycidyl ethers, or mixtures thereof (Claims 8-9); (v) a resin composition comprising a phenol/phenol formaldehyde/furfuryl alcohol resin comprising from about 5% to about 30% phenol, from about 40% to about 70% phenol formaldehyde, from about 10 to about 40% furfuryl alcohol, from about 0.1% to about 3% of a silane coupling agent, and from about 1% to about 15% of a surfactant (Claim 10);

(B) a density-reducing material: (i) a density-reducing material comprising micro-material (Claim 13); (ii) a density-reducing material comprising low-density material similar in size to the particulate material (Claim 14).

Applicant is required under 35 U.S.C. 121 to elect a **single disclosed species of (A) and (B)**, even though this requirement is traversed.

6. Claim 19 of Group II is generic to a plurality of disclosed patentably distinct species of:

(A) a resin composition: (i) a resin component comprising a hardenable resin component comprising a hardenable resin and a hardening agent component comprising a liquid hardening agent, a silane coupling agent, and a surfactant (Claim 20); (ii) a resin composition comprising a furan-based resin comprising furfuryl alcohol, a mixture furfuryl alcohol with an aldehyde, a mixture of furan resin and phenolic resin or mixtures thereof (Claims 21-22); (iii) a resin composition comprising a phenolic-based resin comprising terpolymer of phenol, phenolic formaldehyde resin, a mixture of phenolic and furan resin, or mixtures thereof (Claims 23-24); (iv) a resin composition comprising a HT epoxy-based resin comprising bisphenol A-epichlorohydrin resin, polyepoxide resin, novolac resin, polyester resin, glycidyl ethers, or mixtures thereof (Claims 25-26); (v) a resin composition comprising a phenol/phenol formaldehyde/furfuryl alcohol resin comprising from about 5% to about 30% phenol, from about 40% to about 70% phenol formaldehyde, from about 10 to about 40% furfuryl alcohol, from about 0.1% to about 3% of a silane coupling agent, and from about 1% to about 15% of a surfactant (Claim 27);

(B) a density-reducing material: (i) a density-reducing material comprising micro-material (Claim 30); (ii) a density-reducing material comprising low-density material similar in size to the particulate material (Claim 31).

Applicant is required under 35 U.S.C. 121 to elect a **single disclosed species of (A) and (B)**, even though this requirement is traversed.

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7. Claim 36 of Group III is generic to a plurality of disclosed patentably distinct species of:

(A) a resin composition: (i) a resin component comprising a hardenable resin component comprising a hardenable resin and a hardening agent component comprising a liquid hardening agent, a silane coupling agent, and a surfactant (Claim 37); (ii) a resin composition comprising a furan-based resin comprising furfuryl alcohol, a mixture furfuryl alcohol with an aldehyde, a mixture of furan resin and phenolic resin or mixtures thereof (Claims 38-39); (iii) a resin composition comprising a phenolic-based resin comprising terpolymer of phenol, phenolic formaldehyde resin, a mixture of phenolic and furan resin, or mixtures thereof (Claims 40-41); (iv) a resin composition comprising a HT epoxy-based resin comprising bisphenol A-epichlorohydrin resin, polyepoxide resin, novolac resin, polyester resin, glycidyl ethers, or mixtures thereof (Claims 42-43); (v) a resin composition comprising a phenol/phenol formaldehyde/furfuryl alcohol resin comprising from about 5% to about 30% phenol, from about 40% to about 70% phenol formaldehyde, from about 10 to about 40% furfuryl alcohol, from about 0.1% to about 3% of a silane coupling agent, and from about 1% to about 15% of a surfactant (Claim 44);

(B) a density-reducing material: (i) a density-reducing material comprising micro-material (Claim 47); (ii) a density-reducing material comprising low-density material similar in size to the particulate material (Claim 48).

Applicant is required under 35 U.S.C. 121 to elect a **single disclosed species of (A) and (B)**, even though this requirement is traversed.

8. Claim 51 of Group IV is generic to a plurality of disclosed patentably distinct species of:

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(A) a resin composition: (i) a resin component comprising a hardenable resin component comprising a hardenable resin and a hardening agent component comprising a liquid hardening agent, a silane coupling agent, and a surfactant (Claim 52); (ii) a resin composition comprising a furan-based resin comprising furfuryl alcohol, a mixture furfuryl alcohol with an aldehyde, a mixture of furan resin and phenolic resin or mixtures thereof (Claims 53-54); (iii) a resin composition comprising a phenolic-based resin comprising terpolymer of phenol, phenolic formaldehyde resin, a mixture of phenolic and furan resin, or mixtures thereof (Claims 55-56); (iv) a resin composition comprising a HT epoxy-based resin comprising bisphenol A-epichlorohydrin resin, polyepoxide resin, novolac resin, polyester resin, glycidyl ethers, or mixtures thereof (Claims 57-58); (v) a resin composition comprising a phenol/phenol formaldehyde/furfuryl alcohol resin comprising from about 5% to about 30% phenol, from about 40% to about 70% phenol formaldehyde, from about 10 to about 40% furfuryl alcohol, from about 0.1% to about 3% of a silane coupling agent, and from about 1% to about 15% of a surfactant (Claim 59);

(B) a density-reducing material: (i) a density-reducing material comprising micro-material (Claim 62); (ii) a density-reducing material comprising low-density material similar in size to the particulate material (Claim 63).

Applicant is required under 35 U.S.C. 121 to elect a **single disclosed species of (A) and (B)**, even though this requirement is traversed.

9. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the

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limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

10. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

11. A telephone call was made to Mr. Anthony J. Zelano on November 13, 2006 to request an oral election to the above restriction requirement, but did not result in an election being made.

12. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**ELENA TSOY**  
**PRIMARY EXAMINER**  
*ETsoy*

Elena Tsoy  
Examiner  
Art Unit 1762

November 13, 2006